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COMPARISON OF DEPRESSION IN POST-PARTUM WOMEN IN FIRST AND FOURTH WEEK AND MARRIED BUT NEVER PREGNANT WOMEN

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Abstract: To study the risk and prevalence of depression in post-partum period and compare it with the control population (married women and were never pregnant). **Procedure of study**: 100 postpartum women were randomly selected and administered SCL-90, HAMD, SCID-I at week one and four. 100 married never pregnant women were selected randomly as control population. The scores obtained were compared using chi-square test, ODDS ratio and relative risk was calculated. **Results**: Comparison SCL90, HAMD and SCID scores in 1st week postpartum and married never pregnant resulted in conclusion that pregnant women significantly higher risk and prevalence of depression Results HAMD also suggested that severity depressed increased from 1st week postpartum 4th week post-partum. The relative risk of developing depression postpartum period ranged from 2-4. **Conclusion**: Postpartum period significant risk factor for depression and hence actively screened and treated for the betterment child and mother

Keywords: Pregnant Woman, Depression, Post-Partum

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INTRODUCTION

Aim:

1) To study the risk and prevalence of depression in post-partum period and compare it with the control population (married women and were never pregnant).

Objectives: 1) Compare the depressive symptoms in Post-partum women during 1st week and 4th week and compare them with control population as measured by SCID, HAMD and SCL-90

Null hypothesis: There is no statistical difference in incidence of depression in control group (married but never pregnant) and postpartum women

MATERIALS AND METHODS

Materials and Methods for the study are described under the following heading

1) Universe of study

2) Criteria for selecting the patient

3) Procedure for enquiry and collecting data

4). Tools used in the study

Universe of the study

Subjects were postpartum women admitted in maternity wards of the following hospital **St Theresa hospital** has a dedicated 30 bedded maternity ward

Criteria for selection of women into the study:

Inclusion criteria

1) Women who gave written consent for the two postpartum interviews and one immediately after the delivery and one after 4weeks of postpartum

2) Women who reside in the Hyderabad city.

3) Whose Health condition was stable for interview.

Exclusion criteria

1. Those who had poor physical or mental health.

Sample Size:

At the start of study the sample size in pregnant women 100 at 4 week of study the sample size 87 members with attrition rate 13%. Whereas married but never pregnant was 100 same values obtained at 1st week were used for the 4th week as they were controls

Procedure of enquiry and data collection

Test Population

This study was started after obtaining approval from ethical committee. Interview was done to post-partum women in maternity ward with the permission of in charge doctor. Interview was usually scheduled during 4 pm on all weekdays. Interview was conducted within 24 hrs after delivery. Women were explained about the nature and procedure of study, privacy of information and publication of study. A written consent was obtained in native language from the women. A random number sequence from 0 to 200 was generated from computer program (SPSS 13.0). The random number was matched with the last two or three digits inpatient registration number. First interview was taken in hospital maternity ward and second interview was taken in 4th week

Control Population

Controls were married women who were never pregnant. These sample Consisted consecutive women from gynecological out-patient departments. A written consent was obtained from the women.

Tools used for the study:

1 Semi structured socio demographic interview

2. SCL-90 Symptom checklist-depression module [3,4,5]

3. SCID-I Structured clinical interview for Axis I DSM III R disorders

4. HAMD Hamilton rating scale for depression

1) Semi structured socio demographic interview [12]

Socio demographic data was gathered by using semi structured questionnaire

In which economic data, violence from husband or family members and address and phone number of the subjects were collected.

2) SCID-I Structured clinical interview for Axis I disorders:

The SCID is a semi-structured interview for making the major Axis I DSM-III-R diagnoses. It is administered by a clinician and includes an introductory overview followed by nine modules, seven of which represent the major axis I diagnostic classes the output of the SCID is a record of the presence or absence of each of the disorders being considered, for current episode (past month).

3) Symptomatic checklist 90 [3, 4, 5]

It has been applied as a psychiatric case-finding instrument, as a measure of symptom severity, and as a descriptive measure of psychopathology in different patient populations (De-rogatis 2000). The SCL-90 is intended to measure symptom severity.

Although entire scale was administered only depression module, was taken for analysis

Intensity on nine different subscales. The 90 items of the questionnaire are scored on a five-point Likert scale, indicating the rate of occurrence of the symptom during the time reference.

4) HAMD [6,7]

The HAMD was developed by Hamilton is widely used to assess symptoms of depression. The scale is 17-21 item scale. Ratings are made on the basis of the clinical interview. The items are rated on 0=none/absent symptoms to 4= most severe symptoms. The HAM-D relies heavily on clinically interviewing skills and experience of rater on evaluating individuals with depressive symptomatology (Hamilton 1960, 1967). As most patients score zero on rare items in depression (depersonalization, obsessional and paranoid symptoms). The total scores on HAMD consist of first 17 items. The HAM-D is used to assess the severity of depression (Guy 1976) Inter-rater reliability for the scores ranges from 0.87 to 0.96. Validity appears to be high.

RESULTS

Socio-Demographic data:

The two groups postpartum women and married and never pregnant were matched with respect age, income, religion and education status did not contribute significantly for the onset of post-partum depression.

Violence with spouse had statistically significant impact on onset of depression.[11]

Depression in pregnant women and married but never pregnant women

Table 1 1st week of Postpartum

Depression sub item of SCL-90	absent	mild	moderate	quite bit	severe
Postpartum women 1st week	0**^^	25%**^^	45%**^^	16**	14**
Women married but never pregnant	40**++	23**++	17**++	12**++	8**++
Depression sub item at 4th week Post-partum women	3++	50++	18++	7++	9++

** p<.0001 df=4 chi square 56.2: Comparison of Married never pregnant vs postpartum1st

++ p<.0001 df=4 chi square 47.6 comparison of married never pregnant vs postpartum 4th

^^ p<0.001 df=4 chi-square 26.739comparison of postpartum 1st week with postpartum4th week

Table 2: Odds ratio calculation with moderate scores in depression module as cut off

Depression sub item of SCL-90 Postpartum women 1st week women married but never pregnant	
Odds ratio	0.56
95% CI	03505 to 0.8947
Z statistic	2.436
RR 1/OR	2

Qualitative data analysis (Chi- square test)

In the "absent" category of SCL90 the "married but never pregnant" were more asymptomatic than pregnant women indicating most pregnant women had some symptoms of depression (table1). In each severity category the depression module SCL90 severity score in "pregnant women in 1st and 4th week" is high and statistically significant than "married but never pregnant women" .The relative risk of pregnant women developing depression 2-2.5 times more than control population(table2)

Comparison of HAMD scores between post-partum Pregnant and married never pregnant women

Table 3

Postpartum Postpartum women	**HAMD scores In 1st week**	**normal**	**33***	**33%**
		Mild	24*	25%
		Moderate	19*	19%
		severe	13*	13%
		Very severe	11*	11%
Married but Never pregnant	HAMD scores	normal	72	72%
		Mild	17	17%
		Moderate	4	4%
		severe	5	5%
		Very severe	2	2%

Table 4

Depression sub item of HAMD Postpartum women 1st[h] week women married but never pregnant	
Odds ratio	0.2558
95% CI	0.1248-0.5245
Z statistic	3.722
RR 1/or	4

*comparison between HAMD scores 1[st] week and married never pregnant women

Chi-square 35.25 df=4 p<.0001 Cramer's v=0.4198

For chi-square test (Table3) it can be understood that incidence and prevalence of depression in postpartum women in first week of postpartum is statistically significant than married but never pregnant women. This indicate point prevalence and incidence of depression is high than control population. This difference can be attributed to pregnancy. From odds ratio it is calculated the relative risk for developing depression (table4) four times the control population

Comparison of HAMD [10] Postpartum women in the 1[st] week and in 4[th] week

Table 5

Postpartum	**HAMD**	**normal**	**33**	**33%**
Postpartum	**scores**			
Women	**In 1[st] week**	mild	24	25%
		moderate	19	19%
		severe	13	13%
		very severe	11	10%
Postpartum	HAMD	normal	9*	10%
Postpartum	scores	mild	21*	24%
Women	At 4[th]	Moderate	23*	26%

Table 6

Depression sub item of HAMD Postpartum women 1st[h] week VS Post-partum 4[th] week	
Odds ratio	0.5709
95% CI	0.3519 to 0.9262
Z statistic	2.271
RR 1/or	1.7

week	severe	18*	20%
	very severe	16*	18%

- Comparision HAMD scores 1st and 4th week

n1(1st week)=100 n2(4nd week)=87 chi-square 15.2 df=4 p<0.005

Comparison of HAMD scores at 1st and 4th week of post-partum. There is significant increase in severity depression from 1st to 4th week. ODDS of progression of depression into4th week were calculated. So the odd's of any type depression progressing into severe 1.7times than normal

SCID Module of depression Table 7

SCID	Married never pregnant	Postpartun1st week	Post partum 4th week
absent	80**	45**++	30++
Sub-thresold	16**	31**++	41++
Threshold	4**	23**++	34++

**comparison married never pregnant and Post-partum 1st week Chi^2 28.0 df=2 p<.0001

++ Comparison postpartum 1st week and postpartum 4th week. Chi^2 6.34 df=2 p<0.04

Table 8 Odds ratio married never pregnant and postpartum 1st SCID depression schedule

Odds ratio	0.3222
95 % CI	0.1790 to 0.5801
z statistic	3.775
RR=1/odd	1/3 =3.3

SCID module of depression[13] comparison between married and never pregnant and 1st week postpartum was done. (Table 7). The incidence of depression in women belonging 1st week of postpartum is more and significantly different from that "married but never pregnant group"

Comparing women 1st week postpartum group to women in 4th week of postpartum group number of candidate absent decreased, while the number in sub threshold increased and number women moving into major depression increased. These variation did have not statistically significance.

DISCUSSION:

Although there are many studies about postpartum depression this is of first its kind in A.P (searched through all indexed published). Some studies in Indian context about postpartum illness exist but India being culturally varied this study becomes unique to Hyderabad [8]

SCL-90 self-reported questionnaire. Scores of depression module were calculated for three groups. It was found postpartum women in 1st week group scored more often in the mild, moderate, quite bit and severe depressive module than control group (married but never pregnant). This difference is statistically significant. Indicating depression in postpartum is more common, with relative risk as per SCL (90) data is two times more frequent than normal population.

HAMD score scale was administered to all three groups. Married but never pregnant group scored lower than postpartum women of 1stweek. This difference is statistically significant again indicating the role postpartum in producing depressive effects. While comparing HAMD score 1st week women and 4th week women. The scores showed vertical trend towards 4th week of postpartum suggesting the depressive symptoms increased in severity through 4th week. The relative risk as per HAMD score is 1.7, suggesting depression increase in severity through week 1of postpartum to week4 postpartum 1.7 times common

SCID module is purely clinical interview and scores mostly objective, not like scl-90 where subjectivity score has significant impact. The SCID diagnosis falls under three categories absent, sub-threshold and major depression.

In the analsyis married but never pregnant group had significantly less diagnosis of sub-threshold and major depression. Over progression to 4th week similar trend as seen in HAMD scores i.e significant number of cases moved over to major depression. This same trend was observed chandran etal [2] suggesting full-fledged depression occurred late in postpartum period .The relative risk factor as per SCID is 3. Suggesting depressive symptoms are 3 times more common than normal population

Plans to improve care:

As the evidence from this paper and many papers done before it have established irrespective culture postpartum period is a risk factor depression. Antenatal checkup have been regularized and also psychiatric disorders screening using scl-90r (revised), GHQ, BPRS for post-partum psychiatric disorder during antenatal checkup and post natal checkups will also help early identification antepartum and postpartum psychological disorders. Training Obstetrician[1,14] will help in better and early identification psychological disorders. Screening during antenatal and postnatal visit, and training obstetrician and increase in general awareness in health [9]workers, mother and mother's family members about the commonness of psychiatric disorders in

postpartum period will help them to seek medical care rather than quack care. Healthy mother and a healthy child.

Limitation

1) Bigger sample size required to prove or disprove the conclusion.
2) More than 60% deliveries occur at home this is not exact representative sample
3) Hospital based are difficult to extrapolate to society
4) WHO defines post-partum period as 6month study for period time give better picture about postnatal morbidity
5) Patients should have been followed from antenatal to till 6 month of postpartum(WHO definition)

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